DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 258 July 2011 have been fully considered and are persuasive. Therefore, the specification objection, rejections under § 112, first and second paragraph, and the § 102(b) rejection over Ortega have been withdrawn.

2. Regarding the § 103 rejection over Ortega, Applicant argues that "Ortega does not disclose a speed control device that controls the drive motor of the laundry drum based on a circumferential speed in m/s of the laundry drum". The Examiner acknowledges that Ortega refers to the standard drum rotation speed units of r/min rather than m/s as claimed. However, one skilled in the art would recognized that all positive r/min speeds manifestly rotate at a speed measurable in m/s. Simply because Applicant recites a unit of measure not typically used in the art does not mean that the prior art does not also rotate a drum in r/min. Further, Examiner notes that Applicant recites the speed control device controlling a speed but does not positively recite adequate structure to define the speed is changed based on sensed or detected variables as apparently argued.

3. Moreover, Examiner notes that there appears to be omitted structure required for performing such operation and Applicant should amend the claims to reflect this if Applicant's intent is to claim the control device controlling the speed based on sensed/detected conditions. Otherwise, the claim is construed to read on a controller that controls a speed based on programmed instructions and/or sensed/detected

conditions being met (for instance, rotating at a prescribed and predetermined speed requires a program or sensed condition to achieve and maintain the speed), which is precisely how the controller of Ortega functions.

4. Regarding the unit of measure in m/s as claimed by Applicant, such speed values are dependent on the drum size and therefore depend on a variable. Hence, the "speed" is not a limiting value but rather a range. Thus, in terms of obviousness the claims are considered in view of their function and what they do (i.e. above or below the defined "applicational rotational speed" where laundry begins to centrifugally stick or for performing a high wash mechanics, which involves tumbling or speeds also below the applicational rotational speed). Applicant may show criticality in such ranges or better define the structural configuration for performing the recited functions in order to patentably define the claims.

5. Simply stated, the mere use of "m/s" as a drum speed does not impart patentability to the claims since all washing machine drums are rotated at speeds measurable in m/s. Rather, it is the function associated therewith that may impart patentability. If the ranges of the different intervals of the prior art function in a similar manner, then the claims do not patentably distinguish over the teachings of the prior art.

6. Regarding Applicant's invention as claimed and the teachings of Ortega, it appears Ortega operates in a similar manner in controlling and rotating the washing machine drum at speeds above and below the applicational rotational speed where laundry just begins to stick to the drum via centrifugal force. Since Ortega does not use the same units as Applicant, manifestly the claims cannot be anticipated. However,

based on the operating functions being similar the position is taken that optimizing the exact speed would appear to produce the same result. Thus, the claims remain rejection as being *prima facie* obvious.

7. As indicated for the indefiniteness rejection for omitting essential parts, this rejection is made based on Applicant's apparent position that the motor is controlled on variable conditions that are sensed or detected. However, since such configuration is not clearly recited in the claims, and the controller of Ortega operating based on drum speeds as programmed, the invention as claimed still reads on the control operations of Ortega. Applicant is strongly urged to address the omission of essential parts should Applicant wish to persuasively argue the position that the controller functions to operate based on variable conditions.

8. Finally, Examiner notes that Applicant's argument on pages 29-30 of the instant Response states that the speed of Ortega (N3) above the applicational rotational speed is higher than the claimed speed and would result in the clothes being too tightly packed to tumble at the lower speeds and would not function in the same manner as Applicant's invention. The Examiner disagrees and points to the Figures of Ortega which clearly show the lower speeds (N1 and N2) operated below the applicational rotational speed and functioning to tumble the clothes are performed after at least one recitation of N3 which indicates that the clothes are not too tightly packed to perform similarly to that speed of Applicant's invention. Moreover, in order to achieve speed N3, the rotational speed manifestly must achieve all speeds below N3 including that of Applicant's (3.7 m/s).

9. On page 31 of the instant Response, Applicant argues that Ortega does not disclose the speed control device that generates first, second, third, and fourth control signals for the drive motor based on the at least one foam formation. Examiner disagrees and submits that the controller of Ortega, which discloses at least four control signals for the drive motor to operate (see the plural speeds operated in the Figures and "Disclosure of the Invention" section which is directed to operating based on foam formation. Applicant continues to address various new dependent claim limitations, which will be addressed in any forthcoming rejections or indication of allowable subject matter.

Election/Restrictions

10. Applicant's traversal arguments have been noted as indicated in the Advisory Action mailed 08/08/2011, however, the requirement was previously deemed still proper and made FINAL in the Non-final Action of 01/28/2011. As also indicated in the Advisory Action, the withdrawn and currently amended method claims may be subject to rejoinder should the elected apparatus claims be placed in condition for allowance in accordance with MPEP § 821.04.

Claim Rejections - 35 USC § 112

11. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

12. Claims 25-28 and 37-40 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Independent claims recite a speed range of "substantially 3.7 m/s". However, the original disclosure as filed recites the range as "approximately 3.7 m/s". Since the claims are not defined in the original disclosure as filed as being the same scope, the apparent change in scope is deemed new matter. Examiner notes that this could also be construed as being indefinite because it is unclear whether or not the scope is the same or different between the use of "substantially" and "approximately". Thus, Applicant urges Applicant to change the claim to "approximately" which is clearly supported in the original disclosure as filed.

13. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

14. Claims 25-28 and 37-42 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: sensors or other structural configurations defining the controller controlling the motor speeds based on a sensed or determined condition in independent claims 25 and 41. A controller does not have the capability to control operations based on variable parameters without sensors or other detecting structures for measuring parameters.

Claim Rejections - 35 USC § 103

15. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

16. Claims 25-28, 35-36 and 40-42 are rejected under 35 U.S.C. 103(a) as obvious over Ortega (previously cited).

Regarding claim 25, Ortega discloses a washing machine comprising a rotary laundry drum 3 and a drive motor intermittently driving the laundry drum during a washing and rinsing process in alternating directions of rotation. See washing machine structure of Figure 3, drum operations of Figures 1-2 and column 4, line 5 – column 5, line 16 describing the operation of the washing machine and driving the drum motor in the manner claimed. Particularly see the intermittently and alternating drive motor operation of Ortega:

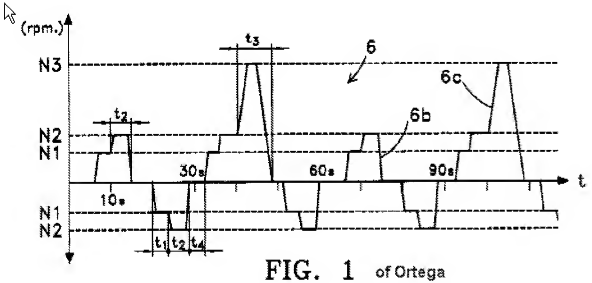

FIG. 1 of Ortega

Regarding the speed control device of claim 25, Ortega recites a wash program operated by control structure readable on a speed control device, which runs the intermittently driven and alternating directions of rotations at respectively different speeds as shown Figures 1-2 of Ortega (simply stated, the means for controlling speed clearly taught by Ortega reads on the claimed "speed control device").

Regarding the majority of claim 25 with respect to the drive motor, Applicant recites significant functional language of the operation of the drive motor during a washing and rinsing process. Examiner notes that the N3 speed of Ortega (exemplified at 300 or 400 rpm but not limited thereto) is higher than the claimed speed of 3.7 m/s, which clearly shows that the drum of Ortega is fully capable of rotating at such speed since such speed necessarily must be reached during the acceleration to the N3 speeds disclosed in Ortega. N1 (approximately 35 rpm) and N2 (approximately 55 rpm) in Ortega read on the claimed speeds of less than about 1.0 m/s and 1.1-1.6 m/s, respectively, assuming an approximate drum circumference of about 1 meter. This is particularly evident considering that all of these speeds are below the "applicational rotational speed" described in the speed function of Applicant (one skilled in the art recognizes that using the standard unit of measure in r/min would be about 60-70).

Note that the claimed speeds in "m/s" are wholly dependent on drum size (i.e. circumference) and would not necessarily perform the same function in all washing machines since not all washing machines have the same drum circumference. Thus, criticality of such variable recitation lies with the function at such speed.

The drive motor of claim 25 recites:

a drive motor intermittently driving the laundry drum during the washing and rinsing process in alternating directions of rotation, and a speed control device (not numbered "electronic control unit" in Ortega) that controls the drive motor of the laundry based on a circumferential speed of the laundry drum, the speed control device selecting (during programmed operation in Ortega) a first phase, during the washing and rinsing process and intermittingly generating:

a first control signal to the drive motor such that the drive motor accelerates the laundry drum in a first direction of rotation to a first rotational speed above an applicatinoal rotational speed, wherein a first circumferential speed of the laundry drum at the first rotational speed is substantially 3.7 m/s, and a second control signal to the drive motor such that the drive motor rotates the laundry drum in a second direction of rotation to a second rotational speed below the applicatinoal rotational speed, wherein a second circumferential speed of the laundry drum at the second rotational speed is less than about 1.0 m/s (this reads on the controller function shown in Fig. 1 of Ortega where N3 is a speed (all speeds between N2 and N3) above an applicational rotational speed and achieving a speed of 3.7 m/s during acceleration to N3 which is exemplified at 300 rpm, and N1 is a speed (35 rpm) in the other direction and below an applicational rotational speed of less than 1.0 m/s),

the speed control device successively selecting a second phase, during the washing and rinsing process, and intermittently generating:

a third control signal for the drive motor such that the drive motor accelerates the laundry drum in the first direction of rotation to a third rotational speed for high washing mechanics, wherein a third circumferential speed of the laundry drum at the third rotational speed for high washing mechanics lies in an interval of about 1.1 to 1.6 m/s *(see first two rotations of N1/N2 of Ortega showing complimentary reversed rotations, wherein N2 is approximately 55 rpm)*, and

a fourth control signal for the drive motor such that the drive motor accelerates the laundry drum in the second direction of rotation to a fourth rotational speed for high washing mechanics, wherein a fourth circumferential speed of the laundry drum at the fourth rotational speed for high washing mechanics lies in an interval of about 1.1 to 1.6 m/s *(see repeated rotations of N1/N2 starting at reference numeral 6b, wherein N2 is approximately 55 rpm, occurring successively after the first two rotations of N1/N2 above)*.

Accordingly, the washing program which drives the motor in accordance with Fig. 1 of Ortega reads on a speed control device as claimed with the exception of using r/min instead of the claimed m/s.

However, notwithstanding the fact that Ortega discloses drum speeds which are believed to be overlapping with the speed ranges as claimed, the non-conventional recitation of the claimed drum speed is in "m/s" rather than the standard "r/min". Note also that Ortega teaches that it is known to provide low and intermediate drum speeds

in ranges of 30-40 rpm and 45-70 rpm, respectively (see col. 1, ll. 19-27). Hence, even if *arguendo* one were to construe the similar drum speeds as not overlapping they are clearly very similar in function and are dependent on the drum circumference (a drum circumference of .75 meters and 1.00 meters would have significantly different results in the claimed washing machine whereas the effects would be substantially the same in the washing machine of Ortega based on the unit of drum speed applied). However, drum speed of a washing machine is a result effective variable and optimizing the drum speed for a known and desired result such as tumbling, washing, drying, etc. is both predictable and expected, i.e *prima facie* obvious. Therefore, since Ortega teaches speeds with similar functions (i.e. above or below an applicational rotational speed) it would have been obvious to one having ordinary skill in the art at the time the invention was made to optimize the drum speed to achieve a desired and known laundering action based on the drum speed, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art (*In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980)).

Regarding claim 26, Ortega further discloses concerns for foam formation and imbalance and discloses that the control unit performs an imbalance test and cutting acceleration if an imbalance is detected (see col. 5, lines 40-45). The Examiner notes that detection of foam and imbalance/eccentricity in a washing machine is common and well known in the art and is generally not considered a patentable modification.

Regarding claim 27, Ortega further discloses running normal wash programs "depending on the other factors affecting soaking" and varying the wash program

operations (see col. 4, lines 40-53). Further, Fig. 1 of Ortega shows the first phase performed before or after the second phase.

Regarding claim 28, Applicant claims a "device for establishing and evaluating at least one of the type and quantity of laundry items...". This generic "device" recitation with the intended use of "establishing and evaluating at least one of the type and quantity of laundry items..." reads on a cycle selector wherein the user selects or establishes a cycle based on laundry type or quantity and the washing cycle is performed by the controller. Such structure is a standard feature in generally all domestic washing machines. Further, Ortega provides express teachings of normal wash programs and delicate wash programs, with the establishing of a desired wash program resulting in the operation of the program. Manifestly, in order for the washing machine of Ortega to perform either a normal or delicate type washing such device for selecting the wash cycle necessarily must exist in order for user to select a washing cycle based on type of laundry item. Thus, the position is taken that Ortega inherently or implicitly discloses a device which is fully capable of performing the intended use operation as claimed.

Regarding claim 40, Ortega further discloses the control unit performing an unbalance test and "cutting said acceleration out if an imbalance is *detected*" (emphasis added). Hence, Ortega implicitly or inherently discloses an imbalance detecting/sensing means readable on a "sensor" and varying the control signal to the drive motor (cutting acceleration) based on the received signal from the sensor, as claimed. Examiner

notes that cutting acceleration reads on varying the first, second, third, and fourth control signals given the generic and broad nature of the term "varies".

Regarding new claims 41-42, a broadened "speed control means" is claimed rather than a speed control device as in claim 25. Further, the "means" language includes rotating the drum at prescribed speeds. As indicated above, the washing program operating the drum in accordance with Fig. 1 of Ortega overlaps or at least renders obvious said ranges absent a showing of secondary results.

The Examiner notes that Applicant's apparatus claims appear to recite a range in "m/s" whereas Ortega and the general state of the art operate washing drums in "r/min". If the unit of measure in m/s has a different effect than that in r/min, Applicant is urged to contact the Examiner to clarify how the change of unit defines over the art as this is not clear. Moreover, Applicant may wish to provide any secondary considerations if they are present to support a showing of non-obviousness since the claims are only under an obviousness rejection. Addressing these issues will help advance the claims as it does not appear that Applicant and Examiner are quite on the same page.

17. Claims 37-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ortega. Ortega, *supra*, discloses the claimed invention including the desire to wash a full load or half load of clothes (i.e. a determined/known load size; col. 3, ll. 18-20 & col. 5, ll. 17-20) and avoid excess foam formation (col. 2, ll. 46-48). However, Ortega does not expressly disclose the use of a load sensor or foam sensor and controlling the washing program based on sensed load or foam, respectively. The Examiner takes

Official Notice that sensors are common knowledge in the art for such purpose, i.e. sensors for sensing load size and controlling a washing function based on the sensed load, as well as sensors for sensing formation of foam and controlling a washing function based on the sensed foam condition.

The position is taken that all of the component parts are known in Ortega or are common knowledge in the washing machine art. The only difference is the combination of "old elements" into a single washing machine by providing the washing machine of Ortega with old and known sensors for sensing load size and foam.

Thus, it would have been obvious to one having ordinary skill in the art to mount known sensors for their known purpose into the washing machine of Ortega to achieve the predictable results of performing a washing operation based on a sensed load size and performing a washing operation based on a sensed foam condition.

Examiner notes that if the sensors provide an unexpected or unpredictable result, such showing may overcome the *prima facie* obviousness rejection. Applicant should present argument in support of this position.

Conclusion

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph L. Perrin whose telephone number is (571)272-1305. The examiner can normally be reached on M-F 8:00-4:30.

19. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael E. Barr can be reached on (571)272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

20. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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JLP